Instructions on How to Read the ACS Summary File into Excel

It is strongly advised that data users read the handbook *Using the American Community Survey Summary File: What Data Users Need to Know* before attempting to import data into Excel. It is available at https://www.census.gov/programs-surveys/acs/data/summary-file.html.

This document uses an example of the unweighted sample count of the population from table B00001 and unweighted sample housing unit count from table B00002 from the 2013 American Community Survey (ACS) 1-year estimates found in Sequence 1 for the state of Maryland. The procedures are the same for different data files and geographies.

Note: The 2020 5-Year dataset will be the last time the summary file will be in the current format. The revised format will be the primary format. Learn more on the *Updates to the Summary File* page at https://www.census.gov/programs-surveys/acs/data/summary-file/updates-to-acs-summary-file.html.

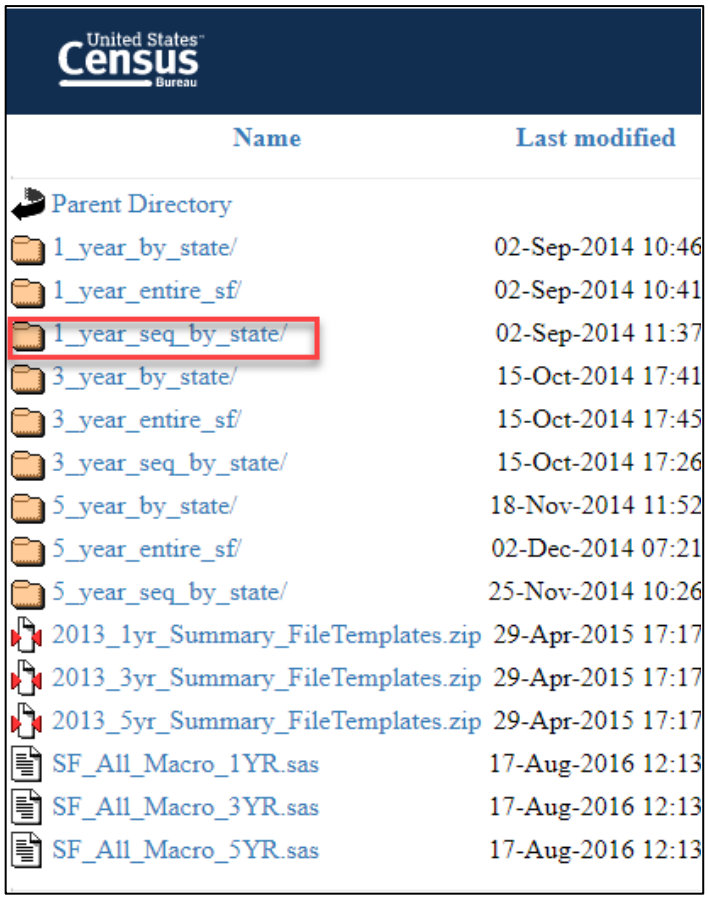
To read the Summary File into Excel, users will need three files. It is best to download the files in the order listed.

1. Summary File data
2. Excel template
3. Excel geography file

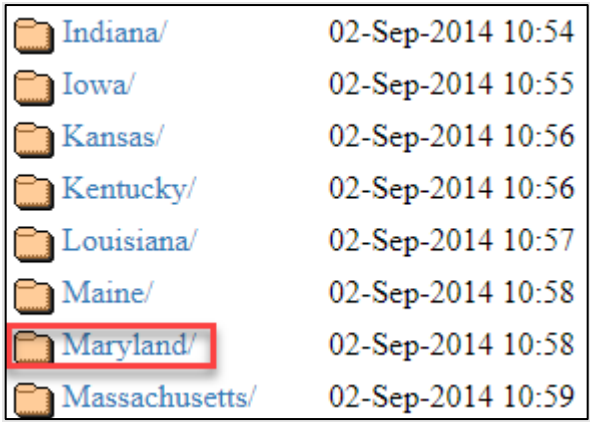
Accessing the Summary File Data:

1. Visit the ACS Summary File page at https://www.census.gov/programs-surveys/acs/data/summary-file.html.
2. Choose your year of interest. In this example, we're choosing 2013.
3. Select the appropriate summary file data (1-Year, 3-Year, or 5-Year). In this example, we selected the 1-Year file. (Note: The 3-Year data are available only for years 2007-2013).

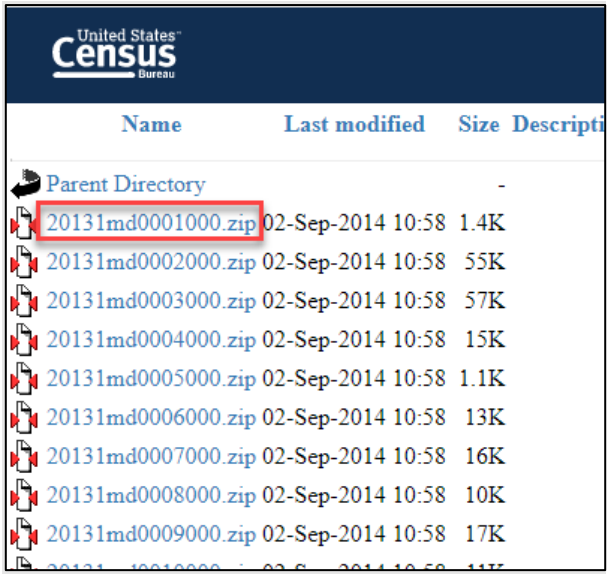
4. Choose file type:
   - year_entire_sf (entire summary file)
   - year_by_state (summary file subdivided by state)
   - year_seq_by_state (summary file subdivided by state and sequence)
     In this example, we're choosing **1_year_seq_by_state/**.



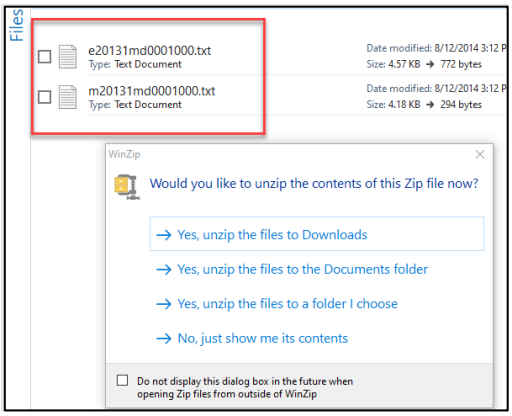
5. Choose a State folder or the United States folder. Note: the "US" worksheet only contains geographic summary levels that cross state boundaries. "US" does **not** contain data for the entire nation.



a. If accessing a particular sequence file, first choose State then choose the appropriate sequence file to download. There are so many tables in the ACS that they cannot all fit into a single zipped file. Therefore, the Detailed Tables are split across numerous files, called sequences. In the ACS Summary File, the estimates and margins of error for Detailed Tables are grouped together by their sequence numbers. You need to know the sequence number associated with a Detailed Table to access the correct estimate and margin of error files for that table. Each sequence contains the data points for a single table or multiple tables within the same subject area. To help data users find the sequence number associated with an ACS Detailed Table, the Census Bureau provides a **Sequence Number/Table Number Lookup File** with each ACS data release. To find the sequence number associated with a table, open Sequence Number/Table Number Lookup File.
b. Look for the appropriate table ID. In this example, we're looking for tables B00001 and B000002. The sequence we need in Sequence 1. We are opening and saving the 2013 ACS 1-year estimates in Sequence 1 for the state of Maryland at https://www2.census.gov/programs-surveys/acs/summary_file/2013/data/1_year_seq_by_state/Maryland/20131md0001000.zip.

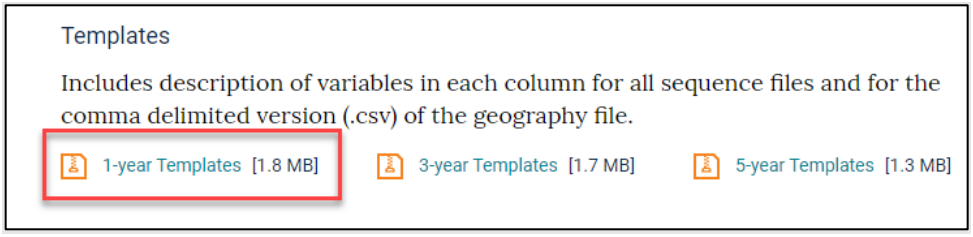


6. Once you download the file, unzip the file. When you unzip the file, you will see that it contains two spreadsheet tabs, "E" and "M", to accommodate both the estimates (E) and margins of error (M) or (MOE).



Accessing the Excel Template:

1. Visit the ACS Summary File page at https://www.census.gov/programs-surveys/acs/data/summary-file.html
2. Choose your year of interest. In this example, we're choosing 2013.
3. Select appropriate template zip file from the Templates section. Note: When you unzip the file, you will see that the template contains two spreadsheet tabs, "E" and "M", to accommodate both the estimates and margins of error.
   - 1-Year Templates
   - 5-Year Templates
   - 3-Year Templates(Note: The 3-Year data is available only for years 2007-2013)

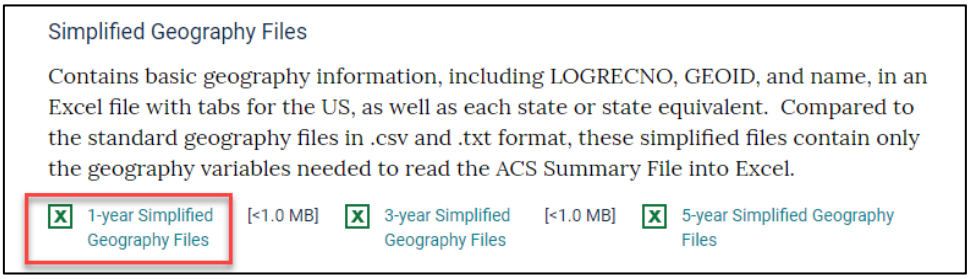


In this example, we're opening and saving the 2013 ACS 1-year Templates zip file at https://www2.census.gov/programs-surveys/acs/summary_file/2013/data/2013_1yr_Summary_FileTemplates.zip. The template file we will use is "Seq1.xls."

Accessing the Geography File

1. Visit the ACS Summary File page at https://www.census.gov/programs-surveys/acs/data/summary-file.html.
2. Choose your year of interest. In this example, we're choosing 2013.
3. Scroll to the Simplified Geography Files section.
4. Choose desired geography file:
   - 1-Year Simplified Geography Files (**1_year_Mini_Geo)**
   - 5-Year Simplified Geography Files (**5_year_Mini_Geo)**
   - 3-Year Simplified Geography Files (Note: The 3-Year data is available only for years 2007-2013)

     Note: Geography files are not available for pre-2009 datasets.



In this example, we're opening and saving the 2013 geography file 1_year_Mini_Geo at https://www2.census.gov/programs-surveys/acs/summary_file/2013/documentation/geography/1_year_Mini_Geo.xlsx

Reading all Files into Excel

Important: Make sure all three files (e20131md0001000.txt, Seq1.xls, and 1_year_Mini_Geo) are unzipped into to a single local directory/folder.

1. Open the template "Seq1" and follow the steps below.

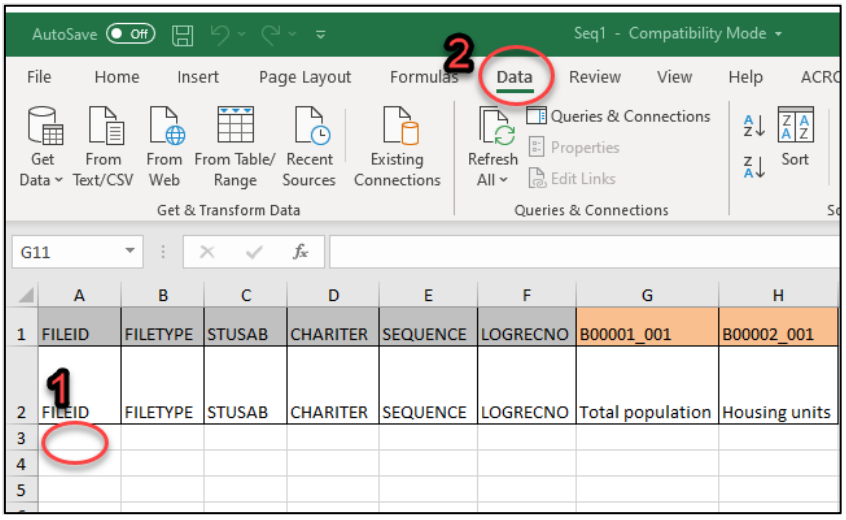
Note: The screenshots are for illustration purposes only and may not reflect current data.

	A	B	C	D	E	F	G	H	I	J
1	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	B00001_001	B00002_001		
2	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	Total population	Housing units		
3										

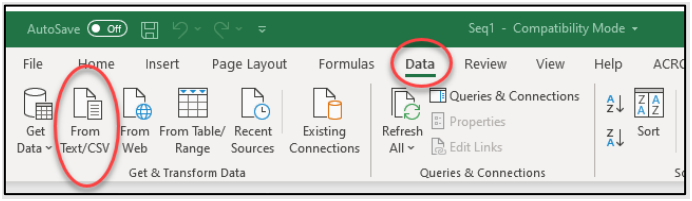
2. When the "Seq1" template file is open in Excel it should appear as below:

Note: You may want to adjust the column height and width.

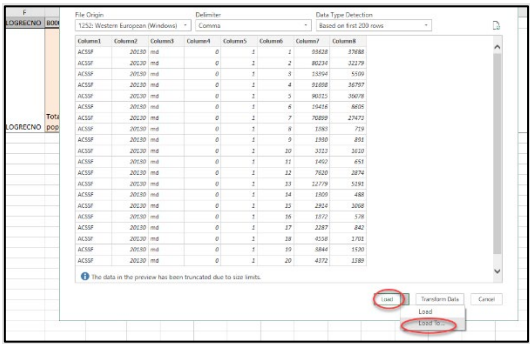
3. For estimates, use the spreadsheet tab "E". For margins of error, use spreadsheet tab "M". Place your cursor in cell A3 and select the **Data** tab in the Excel tool bar.



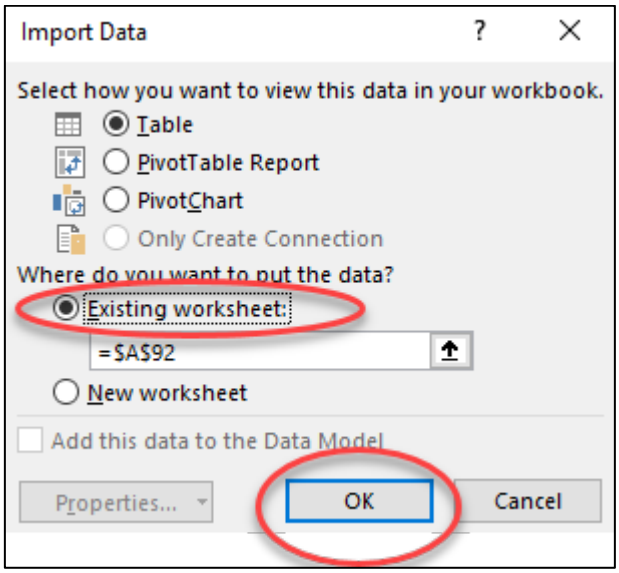
4. To import the Summary File text file into Excel, select **From Text/CSV**, then choose the desired estimate file. In this example, we are opening the estimate file for Maryland (e20131md0001000.txt) for the spreadsheet tab "E" and the margins of error file for Maryland (m20131md0001000.txt) for the spreadsheet tab "M" (margins of error file to be completed at step 11).



5. Step 1 of the Text Import Wizard will appear. Select **Load** and the drop down arrow to **Load To…**



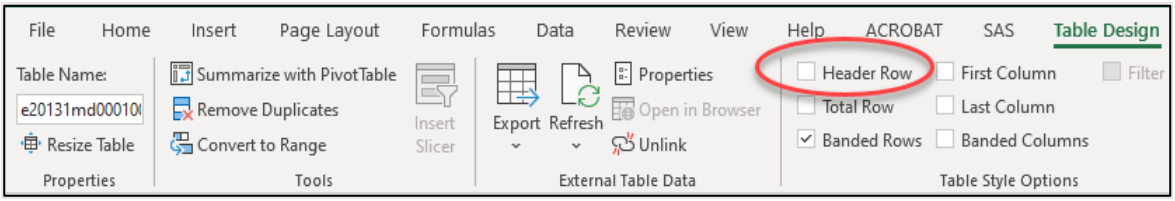
Step 2 of the Excel Text Import Wizard will appear. Select Load to **Existing worksheet**. Then click OK.



6. The Summary File will be imported into Excel as shown below:

	A	B	C	D	E	F	G	H
1	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	B00001_001	B00002_001
2	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	Total population	Housing units
3	Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8
4	ACSSF	20130	md	0	1	1	93628	37688

7. Remove the third row shown by unchecking the Header Row option in the Table Design menu as shown below. Then delete the empty row.



Row 1 – Contains a unique identifier of Table ID and Line Number with a "_" between them
Row 2 – Contains the associated metadata for each unique identifier
Row 3 – Is the first row of the imported data

	A	B	C	D	E	F	G	H
1	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	B00001_001	B00002_001
2	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	Total population	Housing units
3	ACSSF	20130	md	0	1	1	93628	37688
4	ACSSF	20130	md	0	1	2	80234	32179

Column A – Is a constant value of "ACSSF" (stands for ACS Summary File)

Column B – Contains the associated metadata for each unique identifier

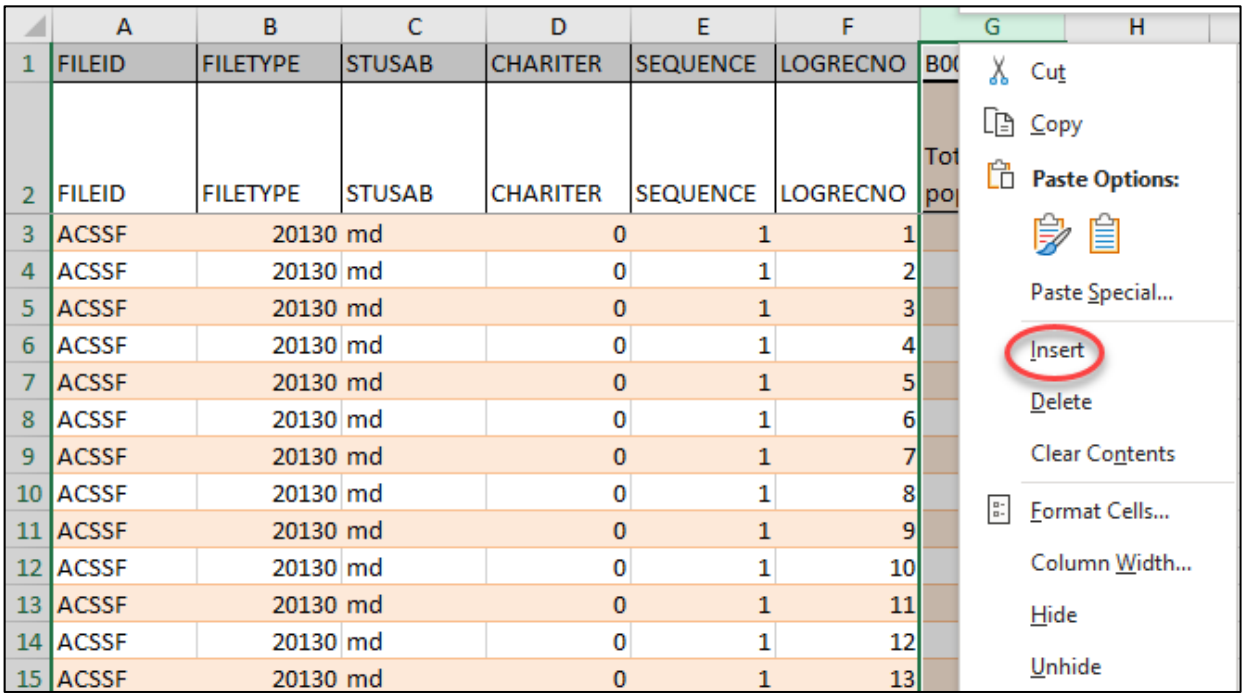
Column C – Is the first column of the imported data

a. Repeat steps 1-8 to read in the margins of error. Here is the screenshot of the estimates for sequence 1:

	A	B	C	D	E	F	G	H
1	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	B00001_001	B00002_001
2	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	Total population	Housing units
3	ACSSF	20130	md	0	1	1	93628	37688
4	ACSSF	20130	md	0	1	2	80234	32179
5	ACSSF	20130	md	0	1	3	13394	5509
6	ACSSF	20130	md	0	1	4	91698	36797
7	ACSSF	20130	md	0	1	5	90315	36078
8	ACSSF	20130	md	0	1	6	19416	8605
9	ACSSF	20130	md	0	1	7	70899	27473
10	ACSSF	20130	md	0	1	8	1383	719
11	ACSSF	20130	md	0	1	9	1930	891
12	ACSSF	20130	md	0	1	10	3313	1610
13	ACSSF	20130	md	0	1	11	1492	651
14	ACSSF	20130	md	0	1	12	7620	2874
15	ACSSF	20130	md	0	1	13	12779	5191
16	ACSSF	20130	md	0	1	14	1309	488
17	ACSSF	20130	md	0	1	15	2914	1068
18	ACSSF	20130	md	0	1	16	1372	578

8. The geography files are used to link the information identifying a geography to the data in both the estimate (E) and margin of error (M) files. To link the files together, merge the geography file with the E and M files using the variable, LOGRECNO, the logical record number.

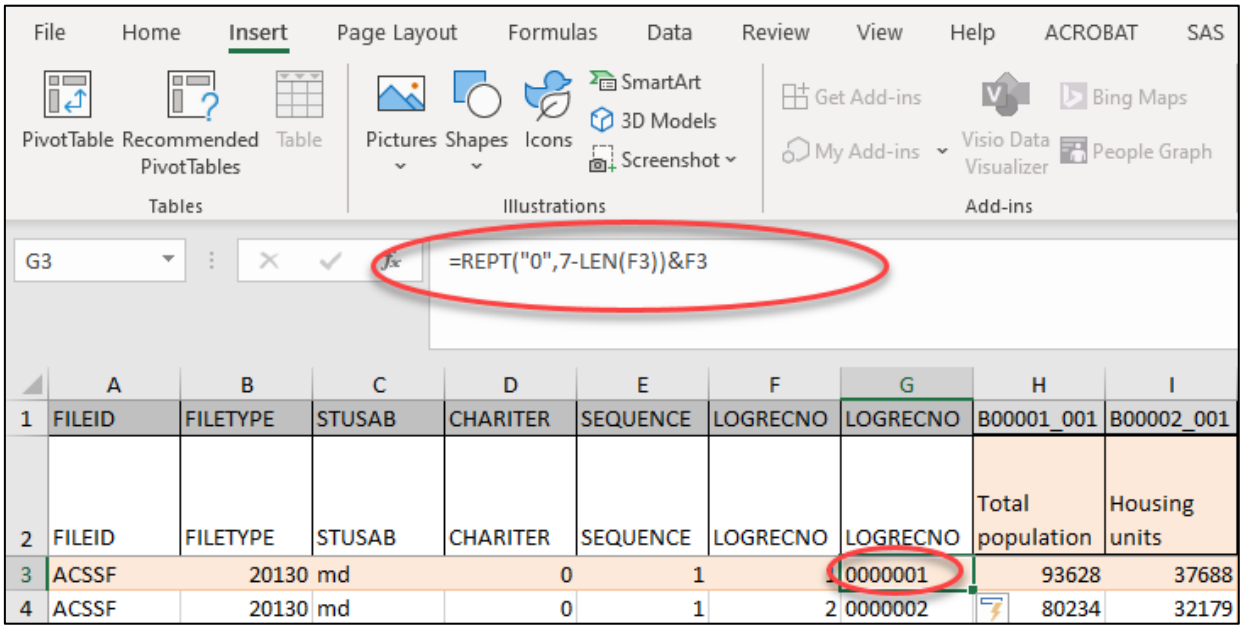
   a. You need to pad zeroes for the logical record number LOGRECNO. Add a column next to LOGRECNO. To do this, highlight column G, then right click and select **Insert**.



   b. For cells G1 and G2, make LOGRECNO the label.

	A	B	C	D	E	F	G	H	I
1	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	LOGRECNO	B00001_001	B00002_001
2	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	LOGRECNO	Total population	Housing units
3	ACSSF	20130	md	0	1	1		93628	37688
4	ACSSF	20130	md	0	1	2		80234	32179
5	ACSSF	20130	md	0	1	3		13394	5509
6	ACSSF	20130	md	0	1	4		91698	36797

c. Highlight cell G3 and enter the formula **=REPT("0",7-LEN(F3))&F3**, then press Enter.



	A	B	C	D	E	F	G	H	I
1	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	LOGRECNO	B00001_001	B00002_001
2	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	LOGRECNO	Total population	Housing units
3	ACSSF	20130	md	0	1	1	0000001	93628	37688
4	ACSSF	20130	md	0	1	2	0000002	80234	32179

d. Excel will automatically apply this formula to all cells in column G. However, if it does not, you must apply this formula to all cells in column G. One way to do this is by clicking on cell G3 then moving your cursor over the bottom right corner so that it becomes a small cross. Click your mouse and drag the cell to the last row of the spreadsheet.

	A	B	C	D	E	F	G	H	I
1	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	LOGRECNO	B00001_001	B00002_001
2	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	LOGRECNO	Total population	Housing units
98	ACSSF	2.01E+04	md	0	1	96	0000096	7620	2874
99	ACSSF	2.01E+04	md	0	1	97	0000097	9513	4559
100	ACSSF	2.01E+04	md	0	1	98	0000098	12779	5191
101	ACSSF	2.01E+04	md	0	1	99	0000099	1309	488
102	ACSSF	2.01E+04	md	0	1	100	0000100	2914	1068
103	ACSSF	2.01E+04	md	0	1	101	0000101	1372	578
104	ACSSF	2.01E+04	md	0	1	102	0000102	2287	842
105	ACSSF	2.01E+04	md	0	1	103	0000103	4558	1701
106	ACSSF	2.01E+04	md	0	1	104	0000104	3844	1520
107	ACSSF	2.01E+04	md	0	1	105	0000105	4372	1589
108	ACSSF	2.01E+04	md	0	1	106	0000106	16262	6227
109	ACSSF	2.01E+04	md	0	1	107	0000107	14288	5420
110	ACSSF	2.01E+04	md	0	1	108	0000108	1397	536
111	ACSSF	2.01E+04	md	0	1	109	0000109	2600	978
112	ACSSF	2.01E+04	md	0	1	110	0000110	1453	597
113									

10. To continue to link the files together, merge the geography file with the estimate and margin of error files using the GEOID and Geography Name.
    a. Add geographies by using common merged keys. Insert two extra columns next to the padded LOGRECNO column G, label them GEOID and Geography Name.

	A	B	C	D	E	F	G	H	I	J	K
1	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	LOGRECNO	GEOID	Geography Name	B00001_001	B00002_001
2	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	LOGRECNO	GEOID	Geography Name	Total population	Housing units
3	ACSSF	20130	md	0	1	1	0000001			93628	37688
4	ACSSF	20130	md	0	1	2	0000002			80234	32179

    b. Add GEOID data by using LOGRECNO as the common merged key from both Seq1.xls and 1_year_Mini_Geo.xls. Highlight cell H3 and enter the formula **=VLOOKUP(G3,[1_year_Mini_Geo.xlsx]MD!A:B,2,0)**
    Press enter then locate and select the geography file when prompted.

*Note: "**1_year_Mini_Geo.xlsx**" and "**MD**" in the above formula should be changed to reflect the file year and state you are attempting to open if you are working with a different data year and state.*

FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	LOGRECNO	GEOID	Geography Name	B00001_001	B00002_001
FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	LOGRECNO	GEOID	Geography Name	Total population	Housing units
ACSSF	20130	md	0	1	1	0000001	**04000US24**		93628	37688
ACSSF	20130	md	0	1	2	0000002	04001US24		80234	32179
ACSSF	20130	md	0	1	3	0000003	04043US24		13394	5509
ACSSF	20130	md	0	1	4	0000004	040A0US24		91698	36797

**Remember: for this formula to work, you must have all files saved in the same folder in the local directory.*

c. Add geography names by using GEOID as the common merged key from both Seq1.xlsx and 1_year_Mini_Geo.xls. To add the geography names, highlight cell I3 and enter the formula: =VLOOKUP(H3,[1_year_Mini_Geo.xlsx]MD!B:C,2,0) Press enter then locate and select the geography file if prompted. In newer versions of Excel, the names may automatically populate.

The note from Step 10b also applies to this step

FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	LOGRECNO	GEOID	Geography Name	B00001_001	B00002_001
FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	LOGRECNO	GEOID	Geography Name	Total population	Housing units
ACSSF	20130	md	0	1	1	0000001	**04000**	**Maryland**	93628	37688
ACSSF	20130	md	0	1	2	0000002	04001US24	Maryland -- Urban	80234	32179
ACSSF	20130	md	0	1	3	0000003	04043US24	Maryland -- Rural	13394	5509
ACSSF	20130	md	0	1	4	0000004	040A0US24	Maryland -- In me	91698	36797
ACSSF	20130	md	0	1	5	0000005	040C0US24	Maryland -- In me	90315	36078
ACSSF	20130	md	0	1	6	0000006	040C1US24	Maryland -- In me	19416	8605
ACSSF	20130	md	0	1	7	0000007	040C2US24	Maryland -- In me	70899	27473
ACSSF	20130	md	0	1	8	0000008	040E0US24	Maryland -- In mic	1383	719
ACSSF	20130	md	0	1	9	0000009	040G0US24	Maryland -- Not in	1930	891
ACSSF	20130	md	0	1	10	0000010	040H0US24	Maryland -- Not in	3313	1610
ACSSF	20130	md	0	1	11	0000011	05000US240(	Allegany County, I	1492	651

Note: Excel will automatically apply this formula to all cells in the GEOID and Geography columns. However, if it does not, you must apply the formulas to all cells in each column.

Your final spreadsheet should look as follows:

	A	B	C	D	E	F	G	H	I	J	K
1	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	LOGRECNO	GEOID	Geography Name	B00001_001	B00002_001
2	FILEID	FILETYPE	STUSAB	CHARITER	SEQUENCE	LOGRECNO	LOGRECNO	GEOID	Geography Name	Total population	Housing units
3	ACSSF	20130	md	0	1	1	0000001	**04000US24**	**Maryland**	93628	37688
4	ACSSF	20130	md	0	1	2	0000002	04001US24	Maryland -- Urban	80234	32179
5	ACSSF	20130	md	0	1	3	0000003	04043US24	Maryland -- Rural	13394	5509
6	ACSSF	20130	md	0	1	4	0000004	040A0US24	Maryland -- In metropolitan or micropolitan statistical a	91698	36797
7	ACSSF	20130	md	0	1	5	0000005	040C0US24	Maryland -- In metropolitan statistical area	90315	36078
8	ACSSF	20130	md	0	1	6	0000006	040C1US24	Maryland -- In metropolitan statistical area -- in princip	19416	8605
9	ACSSF	20130	md	0	1	7	0000007	040C2US24	Maryland -- In metropolitan statistical area -- not in pri	70899	27473
10	ACSSF	20130	md	0	1	8	0000008	040E0US24	Maryland -- In micropolitan statistical area	1383	719
11	ACSSF	20130	md	0	1	9	0000009	040G0US24	Maryland -- Not in metropolitan or micropolitan statist	1930	891
12	ACSSF	20130	md	0	1	10	0000010	040H0US24	Maryland -- Not in metropolitan statistical area	3313	1610
13	ACSSF	20130	md	0	1	11	0000011	05000US24001	Allegany County, Maryland	1492	651
14	ACSSF	20130	md	0	1	12	0000012	05000US24003	Anne Arundel County, Maryland	7620	2874
15	ACSSF	20130	md	0	1	13	0000013	05000US24005	Baltimore County, Maryland	12779	5191
16	ACSSF	20130	md	0	1	14	0000014	05000US24009	Calvert County, Maryland	1309	488
17	ACSSF	20130	md	0	1	15	0000015	05000US24013	Carroll County, Maryland	2914	1068
18	ACSSF	20130	md	0	1	16	0000016	05000US24015	Cecil County, Maryland	1372	578
19	ACSSF	20130	md	0	1	17	0000017	05000US24017	Charles County, Maryland	2287	842
20	ACSSF	20130	md	0	1	18	0000018	05000US24021	Frederick County, Maryland	4558	1701
21	ACSSF	20130	md	0	1	19	0000019	05000US24025	Harford County, Maryland	3844	1520
22	ACSSF	20130	md	0	1	20	0000020	05000US24027	Howard County, Maryland	4372	1589
23	ACSSF	20130	md	0	1	21	0000021	05000US24031	Montgomery County, Maryland	16262	6227
24	ACSSF	20130	md	0	1	22	0000022	05000US24033	Prince George's County, Maryland	14288	5420
25	ACSSF	20130	md	0	1	23	0000023	05000US24037	St. Mary's County, Maryland	1397	536
26	ACSSF	20130	md	0	1	24	0000024	05000US24043	Washington County, Maryland	2600	978
27	ACSSF	20130	md	0	1	25	0000025	05000US24045	Wicomico County, Maryland	1453	597
28	ACSSF	20130	md	0	1	26	0000026	05000US24510	Baltimore city, Maryland	9513	4559
29	ACSSF	20130	md	0	1	27	0000027	16000US2404000	Baltimore city, Maryland	9513	4559
30	ACSSF	20130	md	0	1	28	0000028	16000US2407125	Bethesda CDP, Maryland	1269	529
31	ACSSF	20130	md	0	1	29	0000029	16000US2419125	Columbia CDP, Maryland	1459	576
32	ACSSF	20130	md	0	1	30	0000030	16000US2426000	Ellicott City CDP, Maryland	1054	376
33	ACSSF	20130	md	0	1	31	0000031	16000US2430325	Frederick city, Maryland	1038	436

11. To obtain the margins of error, GEOID's, and geography names in the MOE spreadsheet unzipped in step 6, repeat steps 1 through 10.